

PATENT

INSTITUT FRANÇAIS DU PETROLE

**AUTOMATIC PIPE GRIDDING METHOD ALLOWING IMPLEMENTATION
OF FLOW MODELLING CODES**

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ABSTRACT

- Automatic pipe gridding method allowing implementation of codes for modelling fluids carried by these pipes.
- The method essentially comprises, considering a minimum and a maximum grid cell size, subdividing the pipe into sections delimited by bends, positioning cells of minimum size on either side of each bend, positioning large cells whose size is at most equal to the maximum size in the central portion of each section, and distributing cells of increasing or decreasing size on the intermediate portions of each section between each minimum-size cell and the central portion. The method preferably comprises a prior stage of simplification of the pipe topography by means of weight or frequency spectrum analysis, so as to reduce the total number of cells without affecting the representativeness of the flow model obtained with the grid pattern.
- Applications : oil pipes gridding for example.

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